

Amendments to the Claims:

Please cancel claims 1-36 without prejudice to continued prosecution. Please add new claims 37-79. The claims and their status are shown below.

1-36. (Canceled)

37. (New) A method for detecting the presence or absence of Group B Streptococcus (GBS) in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer is no more than 30 nucleotides in length and comprises the sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1), wherein said hybridizing step comprises contacting said sample with a pair of *pts* probes, wherein the members of said pair of *pts* probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first *pts* probe of said pair of *pts* probes is labeled with a donor fluorescent moiety and wherein a second *pts* probe of said pair of *pts* probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first *pts* probe and said acceptor fluorescent moiety of said second *pts* probe,

wherein the presence of FRET is indicative of the presence of GBS in said biological sample, and wherein the absence of FRET is indicative of the absence of GBS in said biological sample.

38. (New) The method of claim 37, wherein said second *pts* primer comprises the sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2).

39. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic

acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said second *pts* primer is no more than 30 nucleotides in length and comprises the sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2), wherein said hybridizing step comprises contacting said sample with a pair of *pts* probes, wherein the members of said pair of *pts* probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first *pts* probe of said pair of *pts* probes is labeled with a donor fluorescent moiety and wherein a second *pts* probe of said pair of *pts* probes is labeled with a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first *pts* probe and said acceptor fluorescent moiety of said second *pts* probe,

wherein the presence of FRET is indicative of the presence of GBS in said biological sample, and wherein the absence of FRET is indicative of the absence of GBS in said biological sample.

40. (New) The method of claim 39, wherein said first *pts* primer comprises the sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1).

41. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of *pts* probes, wherein the members of said pair of *pts* probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first *pts* probe of said pair of *pts* probes is labeled with a donor fluorescent moiety and wherein a second *pts* probe of said pair of *pts* probes is labeled with a corresponding acceptor fluorescent moiety, wherein said first *pts* probe is no more than 30 nucleotides in length and comprises the sequence 5'- CAA ATT AAA GAG ACT ATT CGT GCA A -3' (SEQ ID NO:3); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first *pts* probe and said acceptor fluorescent moiety of said second *pts* probe,

wherein the presence of FRET is indicative of the presence of GBS in said biological sample, and wherein the absence of FRET is indicative of the absence of GBS in said biological sample.

42. (New) The method of claim 41, wherein said second *pts* probe comprises the sequence 5'- CAA GTA AAT GCA GAA ACA GG -3' (SEQ ID NO:4).

43. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with a pair of *pts* probes, wherein the members of said pair of *pts* probes hybridize to said amplification product within no more than five nucleotides of each other, wherein a first *pts* probe of said pair of *pts* probes is labeled with a donor fluorescent moiety and wherein a second *pts* probe of said pair of *pts* probes is labeled with a corresponding acceptor fluorescent moiety, wherein said second *pts* probe is no more than 30 nucleotides in length and comprises the sequence 5'- CAA GTA AAT GCA GAA ACA GG -3' (SEQ ID NO:4); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety of said first *pts* probe and said acceptor fluorescent moiety of said second *pts* probe,

wherein the presence of FRET is indicative of the presence of GBS in said biological sample, and wherein the absence of FRET is indicative of the absence of GBS in said biological sample.

44. (New) The method of claim 43, wherein said first *pts* probe comprises the sequence 5'- CAA ATT AAA GAG ACT ATT CGT GCA A -3' (SEQ ID NO:3).

45. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 50 cycling steps is indicative of the presence of a GBS infection in said individual.

46. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 40 cycling steps is indicative of the presence of a GBS infection in said individual.

47. (New) The method of claim 37, 39, 41, or 43, wherein the presence of said FRET within 30 cycling steps is indicative of the presence of a GBS infection in said individual.

48. (New) The method of claim 37, 39, 41, or 43, wherein said cycling step is performed on a control sample.

49. (New) The method of claim 48, wherein said control sample comprises said GBS *pts* nucleic acid molecule.

50. (New) The method of claim 37, 39, 41, or 43, wherein said cycling step uses a pair of control primers and a pair of control probes, wherein said control primers and said control probes are other than said *pts* primers and said *pts* probes, wherein a control amplification product is produced if control template is present in said sample, wherein said control probes hybridize to said control amplification product.

51. (New) The method of claim 37, 39, 41, or 43, wherein the members of said pair of probes hybridize within no more than two nucleotides of each other.

52. (Previously presented) The method of claim 37, 39, 41, or 43, wherein the members of said pair of probes hybridize within no more than one nucleotide of each other.

53. (New) The method of claim 37, 39, 41, or 43, wherein said donor fluorescent moiety is fluorescein.

54. (New) The method of claim 37, 39, 41, or 43, wherein said detecting step comprises exciting said biological sample at a wavelength absorbed by said donor fluorescent moiety and visualizing and/or measuring the wavelength emitted by said acceptor fluorescent moiety.

55. (New) The method of claim 37, 39, 41, or 43, wherein said detecting comprises quantitating said FRET.

56. (New) The method of claim 37, 39, 41, or 43, wherein said detecting step is performed after each cycling step.

57. (New) The method of claim 37, 39, 41, or 43, wherein said detecting step is performed in real time.

58. (New) The method of claim 37, 39, 41, or 43, further comprising determining the melting temperature between one or both of said probe(s) and said amplification product, wherein said melting temperature confirms said presence or said absence of said GBS.

59. (New) The method of claim 37, 39, 41, or 43, further comprising preventing amplification of a contaminant nucleic acid.

60. (New) The method of claim 59, wherein said preventing comprises performing said amplifying step in the presence of uracil.

61. (New) The method of claim 60, wherein said preventing further comprises treating said biological sample with uracil-DNA glycosylase prior to a first amplification step.

62. (New) The method of claim 37, 39, 41, or 43, wherein said biological sample is selected from the group consisting of anal and/or vaginal swabs.

63. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer comprises the sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1), wherein said hybridizing step comprises contacting said sample with an *pts* probe, wherein the *pts* probe is labeled with a donor fluorescent moiety and a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety and said acceptor fluorescent moiety of said *pts* probe,

wherein the presence or absence of fluorescence is indicative of the presence or absence of GBS in said sample.

64. (New) The method of claim 63, wherein said second *pts* primer comprises the sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2).

65. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer comprises the sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2), wherein said hybridizing step comprises contacting said sample with an *pts* probe, wherein the *pts* probe is labeled with a donor fluorescent moiety and a corresponding acceptor fluorescent moiety; and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety and said acceptor fluorescent moiety of said *pts* probe,

wherein the presence or absence of fluorescence is indicative of the presence or absence of GBS in said sample.

66. (New) The method of claim 65, wherein said second *pts* primer comprises the sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1).

67. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a hybridizing step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said hybridizing step comprises contacting said sample with an *pts* probe, wherein the *pts* probe is labeled with a donor fluorescent moiety and a corresponding acceptor fluorescent moiety, wherein said *pts* probe comprises a sequence selected from the group consisting of 5'- CAA ATT AAA GAG ACT ATT CGT GCA A -3' (SEQ ID NO:3) or 5'- CAA GTA AAT GCA GAA ACA GG -3' (SEQ ID NO:4); and

detecting the presence or absence of fluorescence resonance energy transfer (FRET) between said donor fluorescent moiety and said acceptor fluorescent moiety of said *pts* probe,

wherein the presence or absence of fluorescence is indicative of the presence or absence of GBS in said sample.

68. (New) The method of claim 67, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer comprises a sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1), and wherein said second *pts* primer comprises a sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2).

69. (New) The method of claim 63, 65, or 67, wherein said amplification employs a polymerase enzyme having 5' to 3' exonuclease activity.

70. (New) The method of claim 69, wherein said first and second fluorescent moieties are within no more than 5 nucleotides of each other on said probe.

71. (New) The method of claim 69, wherein said second fluorescent moiety is a quencher.

72. (New) The method of claim 63, 65, or 67, wherein said probe comprises a nucleic acid sequence that permits secondary structure formation, wherein said secondary structure formation results in spatial proximity between said first and second fluorescent moiety.

73. (New) The method of claim 72, wherein said second fluorescent moiety is a quencher.

74. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a dye-binding step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer comprises a sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1), wherein said dye-binding step comprises contacting said *pts* amplification product with a double-stranded DNA binding dye; and

detecting the presence or absence of binding of said double-stranded DNA binding dye,

wherein the presence of binding is indicative of the presence of GBS in said sample, and wherein the absence of binding is indicative of the absence of GBS in said sample.

75. (New) The method of claim 74, wherein said second *pts* primer comprises the sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2).

76. (New) A method for detecting the presence or absence of GBS in a biological sample from an individual, said method comprising:

performing at least one cycling step, wherein a cycling step comprises an amplifying step and a dye-binding step, wherein said amplifying step comprises contacting said sample with a pair of *pts* primers to produce an *pts* amplification product if a GBS *pts* nucleic acid molecule is present in said sample, wherein said pair of *pts* primers comprises a first *pts* primer and a second *pts* primer, wherein said first *pts* primer comprises a sequence 5'- TGC ATG TAT GGG TTA TCT TCC -3' (SEQ ID NO:2), wherein said dye-binding step comprises contacting said *pts* amplification product with a double-stranded DNA binding dye; and detecting the presence or absence of binding of said double-stranded DNA binding dye,

wherein the presence of binding is indicative of the presence of GBS in said sample, and wherein the absence of binding is indicative of the absence of GBS in said sample.

77. (New) The method of claim 76, wherein said second *pts* primer comprises the sequence 5'- TGA GAA GGC AGT AGA AAG CTT AG -3' (SEQ ID NO:1).

78. (New) The method of claim 74 or 76, wherein said double-stranded DNA binding dye is ethidium bromide.

79. (New) The method of claim 74 or 76, further comprising determining the melting temperature between said amplification product and said double-stranded DNA binding dye, wherein said melting temperature confirms said presence or absence of said GBS.